

<110> Boutin, Raymond H.

<120> Multifunctional Molecular Complexes for Gene Transfer
to Cells

<130> ahplausa

<140> 08/809,397

<141> 1997-03-21

<150> WO 9610038

<151> 1995-09-28

<150> US 08/314,060

<151> 1994-09-28

<160> 32

<170> PatentIn Ver. 2.0

<210> 1

<211> 25

<212> PRT

<213> Vesicular stomatitis virus

<400> 1

Lys Phe Thr Ile Val Phe Pro His Asn Gln Lys Gly Asn Trp Lys Asn
1 5 10 15

Val Pro Ser Asn Tyr His Tyr Cys Pro
20 25

<210> 2

<211> 32

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 2

Ala Val Gly Ile Gly Ala Leu Phe Leu Gly Phe Leu Gly Ala Ala Gly
1 5 10 15

Ser Thr Met Gly Ala Ala Ser Met Thr Leu Thr Val Gln Ala Arg Gln
20 25 30

<210> 3
<211> 35
<212> PRT
<213> Murine leukemia virus

<400> 3
Glu Pro Val Ser Leu Thr Leu Ala Leu Leu Leu Gly Gly Leu Thr Met
1 5 10 15
Gly Gly Ile Ala Ala Gly Val Gly Thr Gly Thr Thr Ala Leu Val Ala
20 25 30

Thr Gln Gln
35

<210> 4
<211> 23
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 4
Ala Val Gly Ile Gly Ala Leu Phe Leu Gly Phe Leu Gly Ala Ala Gly
1 5 10 15
Ser Thr Met Gly Ala Arg Ser
20

<210> 5
<211> 17
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 5
Ala Val Gly Ala Ile Gly Ala Leu Phe Leu Gly Phe Leu Gly Ala Ala
1 5 10 15

Gly

<210> 6
<211> 22
<212> PRT

<213> Influenza virus

<400> 6

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly
1 5 10 15

Leu Ile Glu Gly Cys Ala

20

<210> 7

<211> 25

<212> PRT

<213> Influenza virus

<400> 7

Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly
1 5 10 15

Met Ile Asp Gly Trp Tyr Gly Phe Arg

20

25

<210> 8

<211> 23

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 8

Ala Val Gly Ile Gly Ala Leu Phe Leu Gly Phe Leu Gly Ala Ala Gly
1 5 10 15

Ser Thr Met Gly Ala Ala Ser

20

<210> 9

<211> 27

<212> PRT

<213> SV5 virus

<400> 9

Phe Ala Gly Val Val Ile Gly Leu Ala Ala Leu Gly Val Ala Thr Ala
1 5 10 15

Ala Asn Val Thr Ala Ala Val Ala Leu Val Lys

20

25

<210> 10
<211> 19
<212> PRT
<213> SFV virus

<400> 10
Lys Val Tyr Thr Gly Val Tyr Pro Phe Met Trp Gly Gly Ala Tyr Cys
1 5 10 15
Phe Cys Asp

<210> 11
<211> 23
<212> PRT
<213> PH-30 virus

<400> 11
Lys Leu Ile Cys Thr Gly Ile Ser Ser Ile Pro Pro Ile Arg Ala Leu
1 5 10 15
Phe Ala Ala Ile Asn Ile Pro
20

<210> 12
<211> 22
<212> PRT
<213> Sendai virus

<400> 12
Phe Phe Gly Ala Val Ile Gly Thr Ile Ala Leu Gly Val Ala Thr Ala
1 5 10 15
Thr Ala Ala Gln Ile Thr
20

<210> 13
<211> 22
<212> PRT
<213> SV5 virus

<400> 13
Phe Ala Gly Val Val Ile Gly Leu Ala Ala Leu Gly Val Ala Thr Ala
1 5 10 15

Thr Ala Ala Gln Val Thr

20

<210> 14

<211> 22

<212> PRT

<213> NDV virus

<400> 14

Phe Ile Gly Ala Ile Ile Gly Gly Val Ala Leu Gly Val Ala Thr Ala
1 5 10 15

Thr Ala Ala Gln Ile Thr

20

<210> 15

<211> 28

<212> PRT

<213> Influenza virus

<400> 15

Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly
1 5 10 15

Met Ile Asp Gly Trp Tyr Gly Phe Arg His Gln Asn

20

25

<210> 16

<211> 28

<212> PRT

<213> Influenza virus

<400> 16

Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly
1 5 10 15

Leu Val Asp Gly Trp Tyr Gly Phe Arg His Gln Asn

20

25

<210> 17

<211> 28

<212> PRT

<213> Influenza virus

<400> 17
Gly Phe Phe Gly Ala Ile Ala Gly Phe Leu Glu Gly Gly Trp Glu Gly
1 5 10 15

Met Ile Ala Gly Trp His Gly Tyr Thr Ser His Gly
20 25

<210> 18
<211> 30
<212> PRT
<213> MMTV virus

<400> 18
Phe Val Ala Ala Ile Ile Leu Gly Ile Ser Ala Leu Ile Ala Ile Ile
1 5 10 15

Thr Ser Phe Ala Val Ala Thr Thr Ala Leu Val Lys Glu Met
20 25 30

<210> 19
<211> 53
<212> PRT
<213> MoMLV virus

<400> 19
Glu Pro Val Ser Leu Thr Leu Ala Leu Leu Gly Gly Leu Thr Met
1 5 10 15

Gly Gly Ile Ala Ala Gly Ile Gly Thr Gly Thr Thr Ala Leu Met Ala
20 25 30

Thr Gln Gln Phe Gln Gln Leu Gln Ala Ala Val Gln Asp Asp Leu Arg
35 40 45

Glu Val Glu Lys Ser
50

<210> 20
<211> 53
<212> PRT
<213> F-MuLV virus

<400> 20
Glu Pro Val Ser Leu Thr Leu Ala Leu Leu Gly Gly Leu Thr Met

1

5

10

15

Gly Gly Ile Ala Ala Gly Val Gly Thr Gly Thr Thr Ala Leu Val Ala
20 25 30

Thr Gln Gln Phe Gln Gln Leu His Ala Ala Val Gln Asp Asp Leu Lys
35 40 45

Glu Val Glu Lys Ser
50

<210> 21

<211> 53

<212> PRT

<213> AKV virus

<400> 21

Glu Pro Val Ser Leu Thr Leu Ala Leu Leu Leu Gly Gly Leu Thr Met
1 5 10 15

Gly Gly Ile Ala Ala Gly Val Gly Thr Gly Thr Thr Ala Leu Val Ala
20 25 30

Thr Gln Gln Phe Gln Gln Leu Gln Ala Ala Met His Asp Asp Leu Lys
35 40 45

Glu Val Glu Lys Ser
50

<210> 22

<211> 27

<212> PRT

<213> SFV virus

<400> 22

Asp Tyr Gln Cys Lys Val Tyr Thr Gly Val Tyr Pro Phe Met Trp Gly
1 5 10 15

Gly Ala Tyr Cys Phe Cys Asp Ser Glu Asn Thr
20 25

<210> 23

<211> 27

<212> PRT

<213> Sindbis virus

<400> 23

Asp Tyr Thr Cys Lys Val Phe Gly Gly Val Tyr Pro Phe Met Trp Gly
1 5 10 15

Gly Ala Gln Cys Phe Cys Asp Ser Glu Asn Ser
20 25

<210> 24

<211> 19

<212> PRT

<213> Measles virus

<400> 24

Phe Ala Gly Val Val Leu Ala Gly Ala Ala Leu Gly Val Ala Ala Ala
1 5 10 15

Ala Gln Ile

<210> 25

<211> 19

<212> PRT

<213> Measles virus

<400> 25

Phe Ala Gly Val Val Leu Ala Gly Ala Ala Leu Gly Val Ala Thr Ala
1 5 10 15

Ala Gln Ile

<210> 26

<211> 23

<212> PRT

<213> Influenza virus

<400> 26

Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly
1 5 10 15

Met Ile Asp Gly Gly Gly Cys
20

<210> 27
<211> 20
<212> PRT
<213> Influenza virus

<400> 27
Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly
1 5 10 15

Met Ile Asp Gly
20

<210> 28
<211> 20
<212> PRT
<213> Influenza virus

<400> 28
Gly Ile Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly
1 5 10 15

Met Ile Asp Gly
20

<210> 29
<211> 20
<212> PRT
<213> Influenza virus

<400> 29
Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly
1 5 10 15

Met Ile Asp Gly
20

<210> 30
<211> 20
<212> PRT
<213> Influenza virus

<400> 30
Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Glu Gly
1 5 10 15

Met Val Asp Gly

20

<210> 31

<211> 20

<212> PRT

<213> Influenza virus

<400> 31

Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Glu Gly
1 5 10 15

Leu Val Asp Gly

20

<210> 32

<211> 20

<212> PRT

<213> Influenza virus

<400> 32

Gly Phe Phe Gly Ala Ile Ala Gly Phe Leu Glu Gly Gly Trp Glu Gly
1 5 10 15

Met Ile Ala Gly

20